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EXAMINER

METZMAIER, DANIEL S

| ART UNIT | PAPER NUMBER |
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1712

DATE MAILED: 12/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,028

Applicant(s)

BOCKER ET AL.

Examiner

Daniel S. Metzmaier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>10/2/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-2 and 4-20 are pending.

Claim Interpretation

1. Some of the claims, e.g., claim 16, R³, define the species of the alternative subgenus, e.g., R³, R⁴, R⁵; without defining the genus, e.g., R², as said species. Said claim reads on the full scope of the remaining alternative subgenus, e.g., R⁴ and R⁵, as well as the limited species, e.g., R³.

Double Patenting

2. Claim 16 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 7. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-2 and 4-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are indefinite since the temperature of the viscosity is undefined in the claims and the viscosity would be expected to vary with the temperature.

Claim 1 is indefinite as to the scope of the aqueous defoamer emulsion “comprising” an oil-in-water emulsion, which is set forth as “consisting of at least one organopolysiloxane compound having a viscosity of \geq about $1 \cdot 10^6$ mPas and water”. It is unclear that the “aqueous defoamer emulsion” and the “oil-in-water emulsion” can exist as distinct emulsions. Therefore, it is unclear what is applicants’ intent of the transitional language “consisting of”, which defines component B).

Furthermore, claims 7-9 and 16-18 set forth “the oil-in-water emulsion comprises”, while the independent claim 1 recites “an oil-in-water emulsion consisting of”. Said variation in scope is further indefinite.

Furthermore, the formula (I) is indefinite since R^1 and R^2 can be the same. When R^1 and R^2 are the same, it is what unclear values should be attributed to each of the subscript values “a” for “ R^1 ” and “b” for “ R^2 ”.

The metes and bounds of the claims are indefinite since it is unclear what is the scope of “at least one active defoaming substance”. Applicants (pages 10 of the October 2, 2006 response) assert the oil-in-water emulsions claimed show no antifoaming activity. This seems inconsistent with the facts that the same data shows that the commercial defoamer 3 showed similar results and is characterized by applicants as a defoamer. Furthermore, said showing is not commensurate in scope with the claims and no explanation has been provided why the skilled artisan would extrapolate the three emulsions provided in the examples to the scope of the claims.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-2, 4-5 and 7-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Dow Corning Toray Silicone Company, Ltd., EP 0 761 724 A2. Dow '724 (column 11, example 2) discloses emulsions of polydimethylsiloxane gum with a viscosity of 10,500,000 centistokes and a particle size of less than 0.4 microns. Dow '724 (column 8, lines 36 et seq) discloses organopolysiloxanes reading on those claimed, wherein R^2 is R^5 , which is R^1 and $a + b$ is about 2.

While the compositions are not characterized as aqueous defoamer emulsions, polydiorganosiloxanes are well known for defoaming efficacy. Said property would have been expected to have been inherent. Where a composition is otherwise anticipated based on structure, it is reasonable to conclude that said composition would have the same properties. A compound or composition and all of its properties are generally inseparable. *In re Papsech*, 315 F2d. 381, 137 USPQ 43, (CCPA 1963).

Dow '724 (example 2) discloses the addition of the polydimethylsiloxane emulsions to the emulsifier and isoparaffin, which reads on at least one defoaming substance claimed (see page 2, last paragraph, instant specification). The emulsion formation disclosed in Dow '724 reads on the step of adding claimed in claim 11 since

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at least some of the oil would be dispersed upon emulsion formation. Dow '724 (column 6, lines 42-54) discloses concentrates.

Dow '724 (column 1, lines 8-11 and 52 et seq) disclose the polydimethylsiloxane emulsions are widely used in industry as lubricants, fiber treatment agents, cosmetic bases and paint additives. The preamble of claims 13, 14, and 15 do not distinguish the otherwise anticipated compositions. Furthermore, the polydimethylsiloxane is a dispersed polymer and paints would inherently contain polymers, e.g., latex paints.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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9. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dow Corning Toray Silicone Company, Ltd., EP 0 761 724 A2. Dow '724 discloses the claimed compositions and methods as set forth in the above anticipation rejection.

To the extent Dow '724 differs from claims 11 and 12 in the adding to a defoamer emulsion, the "selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results". See MPEP 2144.04(IV)(C). It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to add the polydimethylsiloxane to the remaining emulsion components, which would form at least a coarse emulsion and would improve in stability upon processing as disclosed in the Dow '724 reference.

10. Claims 1-20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schulz, Jr. et al, US 5,811,487. Schulz, Jr. et al (abstract, examples and claims) discloses the formation of silicone elastomeric paste forming emulsions having a viscosity on the order of $1.82 \cdot 10^6$ mPas, $4.93 \cdot 10^6$ mPas, and $2.7 \cdot 10^6$ mPas.

The organopolysiloxane emulsions would function as a defoamer emulsion since siloxanes and hydrophobic solids are well known to have foam inhibiting properties. Furthermore, Schulz, Jr. et al (column 9, lines 26 et seq) discloses the silicones are useful as carriers in the organic phases of antifoams as well as paints and coatings. Applicants (page 2, last paragraph, instant specification) define silicone oil as at least one active defoaming substance. It is noted that silicones are dispersed polymers.

The particle size of the emulsions would have been inherent to form emulsion characterized as having excellent aesthetics and stability in the Schulz, Jr. et al reference.

To the extent the Schulz, Jr. et al reference differs from the claims in the specific or explicit disclosure of the addition of the elastomeric silicone to a defoamer emulsion having at least one defoaming substance, it would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ the elastomeric silicones of Schulz, Jr. et al as a carrier in the organic phase of known defoamer emulsions for the advantage of more effectively carrying the organic phase of the defoamer. The incorporation in a defoamer emulsions is a conventional form of commercial defoamers as noted by applicants and clearly contemplated in the Schulz, Jr. et al references.

Response to Arguments

11. Applicant's arguments filed October 2, 2006 have been fully considered but they are not persuasive.
12. The rejection under 35 USC 112, first paragraph has been withdrawn.
13. Applicants (page 9) assert the temperature for the viscosity is defined in paragraph [0036].

Initially, the examiner is unable to find paragraph [0036] in the specification on file in the Official Office Record. Since the US PGPUB is not the part of the official record, it is unclear where in the specification applicants refer. It is suggested applicants employ page and line or paragraph citation of the specification filed as the Official Application File.

Furthermore, limitations should not be read into the claims. To the extent the viscosity is measured at room temperature, the claims should so state to render said limitation unambiguous.

Regarding applicants' reference to the disclosure of the viscosity temperature in the Schulz, Jr. et al reference, each patent application is considered on its own merits.

14. Applicants (page 9) assert the defoamer and the oil-in-water emulsion are distinct emulsions and direct attention to section IV of the response. Applicants (pages 10 of the October 2, 2006 response, section IV) assert the oil-in-water emulsions claimed show no antifoaming activity. This seems inconsistent with the facts that the same data shows that the commercial defoamer 3 showed similar results and is characterized by applicants as a defoamer.

Furthermore, said showing is not commensurate in scope with the claims and no explanation has been provided why the skilled artisan would extrapolate the three emulsions provided in the examples to the scope of the claims.

15. Applicants (pages 10 and 11) assert that Dow '724 does not establish inherency of a defoaming effect and there is no evidence of record to show inherency. This has not been deemed persuasive for the following reasons:

(A) The compositions are otherwise anticipated based on structure. "Products of identical chemical composition can not have mutually exclusive properties.' A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are

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necessarily present. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).” Please see also MPEP 2112.01(II).

(B) Applicants evidence regarding the oil-in-water emulsion consisting of organopolysiloxane and water as emulsion 1, 2, and 3 in the specification is not a probative showing for the Dow ‘724 reference, which employs isoparaffin in the emulsion. See Dow ‘724, example 2 cited, and applicants specification at page 2, last paragraph, wherein paraffin is disclosed as an active defoaming agent.

16. Applicants (page 11) assert the use of the Dow 724 organopolysiloxanes having defoamer activity is absent from the description of utilities. Said absence should not be interpreted as exclusion but mere silence. The industries mentioned include foam free processes.

17. Applicants assert that the applicants’ oil-in-water emulsions consist of the claimed organopolysiloxane and water and the Dow ‘724 compositions consist of three elements including an organopolysiloxane fluid or gum, an emulsifying agent and water. A more correct characterization of example 2 of Dow ‘724 consist of four elements including an organopolysiloxane fluid or gum, isoparaffin (reads on claimed active defoaming substance), an emulsifying agent and water This has not been deemed persuasive for the following reasons:

(A) The compositions employ the open transitional language “comprising”, which would not exclude further ingredients and there is no evidence of record to show that the claimed elements; A) at least one active defoaming substance and B) an oil-in-water

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emulsion would exist as separate entities. Therefore, the "aqueous defoamer emulsion comprising" is open to further ingredients.

(B) Furthermore, Applicants' closed transitional language, "consisting of", for element B) of claim 1 suggest a process of making limitation, which does not distinguish the compositions. These limitations regarding the methods have been addressed in the above rejections as obvious for the reasons therein.

18. Applicants (page 11) arguments regarding obviousness and presented to rebut the anticipation rejection have been addressed herein above.

19. Applicants (page 11) assert the specification has shown unexpected results for the claimed emulsions. This has not been deemed persuasive for the following reasons:

(A) Applicants have not provided a proper comparative showing in the instant specification since it is unclear what applicants are comparing, i.e., materials derived from examples of foreign language documents and a commercial product. Tego® Antifoam KS 95 is broadly characterized (Goldschmidt Industries Specialties) as a self-emulsifying concentrate containing small amounts of organosiloxanes. It is unclear how any of the examples in the specification relate to the Dow '724 disclosure and example 2 of Dow '724.

Applicants assert that the foreign language documents relate to US patents and have provided a data sheet for the commercial product. The data sheet does not specifically disclose what is being compared and applicants have not provided the

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proper foundation for the presentation of the foreign language examples. Said data is not probative.

(B) Furthermore, evidence of unexpected results to be probative must: (i) compare the closest prior art, (ii) explain any differences between the exemplified showing and the closest prior art, (iii) be commensurate in scope with the claims, (iv) explain any differences between the showing and the claims and why the skilled artisan would extrapolate any showing to the full scope of the claims.

20. Applicants (page 12) assert the reasoning rebutting the anticipation of the Dow '724 reference is applicable against the Schulz, Jr. et al reference. These arguments have been addressed above.

21. Applicants (page 12) assert the Schulz, Jr. et al reference discloses alpha, omega-diene cross-linked siloxanes as elastomers and that said siloxanes are different than those used in applicants' oil-in-water emulsion. This has not been deemed persuasive since the claims do not exclude said products. Attention is specifically directed to applicants' claim 6.

Attention is further directed to the rejection under 35 USC 112, second paragraph, regarding the scope of the claimed invention.

22. Applicants (page 12) assert the viscosity in the Schulz, Jr. et al reference is of the silicone paste rather than the siloxanes alone. This has not been deemed persuasive since the siloxanes of the Schulz, Jr. et al reference are in fact gels, i.e., solids, prior to swelling with a low molecular weight organosiloxane. Said viscosity would necessarily be greater than 1×10^6 mPas.

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23. Applicants (page 12) assert the examiner has relied on inherency for the claimed elements allegedly missing in the Schulz, Jr. et al reference. This has not been deemed persuasive since Schulz, Jr. et al (column 9, lines 26 et seq) discloses the silicones are useful as carriers in the organic phases of antifoams as well as paints and coatings. It is noted that silicones are dispersed polymers. It is further noted that low volatile siloxanes read on at least one active defoaming substance as broadly defined in the claim and at page 2, last paragraph of the instant specification.

Conclusion

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. It is noted, EP 0 761 724 A, EP 0 285 391 A, DE 197 31 615 A (GB 2 315 757 A), patent Abstract JP 11 148012, and EP 0 442 098 A (US 5,302,657) were cited in the corresponding European Search Report to EP 1 464 371 A (Priority document DE 103 15 158, filed April 3, 2003, same as instant) as X references and are deemed pertinent to the instant disclosure. It is presumed applicants have said references and they are not being provided.

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

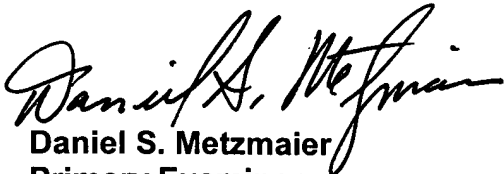
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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM